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Subject:

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund  
Preliminary Response to MDEQ Comments on the Area 1 Alternatives Screening  
Technical Memorandum (ASTM)

Date:  
September 6, 2012

Dear Mr. Bucholtz:

Contact:  
Michael J. Erickson, P.E.

Thank you for providing the Michigan Department of Environmental Quality (MDEQ) review comments on the Area 1 Alternatives Screening Technical Memorandum (Area 1 ASTM) dated August 10, 2012. ARCADIS is working to respond to those comments and incorporate them to the extent possible as we work to complete the Area 1 Feasibility Study (Area 1 FS Report). This letter communicates preliminary responses to a number of comments that we have been able to address since receiving your letter. However, as we discussed on August 15, 2012 in Lansing, the timing of receipt of these comments – and more importantly, the discrepancy with recent prior feedback received from MDEQ in a series of planning meetings to prepare the Area 1 ASTM and the Area 1 FS Report – presents several concerns. Many of the items MDEQ is commenting on were shared in draft multiple times previously. For example, the Area 1 FS Report outline – which listed the Remedial Action Objectives (RAOs) and the specific remedial alternatives to be evaluated – was originally provided to MDEQ on June 17, 2012 with a request that MDEQ review it prior to a meeting scheduled for July 23, 2012. The alternatives and RAOs were specifically discussed at the July 23, 2012 meeting, and we understood that both USEPA and MDEQ were in concurrence with the materials presented (no objections were stated by MDEQ, and USEPA provided verbal concurrence). Further, in an email dated August 8, 2012, MDEQ communicated that it had reviewed the Area 1 FS outline and had no specific comments. In spite of this prior collaboration, the comments received on August 10<sup>th</sup> have the effect of changing the basis and scope of the Area 1 FS. This creates time consuming and costly inefficiencies in the process of developing the report and undermines our prior collaborative efforts.

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USEPA provided detailed preliminary comments on the Area 1 ASTM on July 12, 2012 with a copy to MDEQ, and final comments on July 31, 2012 that were

consistent with preliminary comments and our discussions in the July 23, 2012 meeting. This allowed us to continue on schedule and according to the collaborative planning outcomes with USEPA and MDEQ.

The attached draft responses address comments that we believe we can positively address and incorporate in the Area 1 FS Report, and also provide a response to the MDEQ's reliance on the feasibility study (FS) for the Fox River, WI as a recommended model for the Kalamazoo River.

In summary, we believe the recommendation to selectively incorporate aspects of the Fox River FS is not in keeping with either the National Contingency Plan (NCP) or Comprehensive Environmental Response, Compensation, and Liability Act guidance. Although experiences from other sites can add to the development of an RI/FS, there is nothing in sediment remediation guidance or the NCP indicating that RAOs and cleanup levels, which are fundamentally site-specific, should be copied from one site to the next or made generic. Moreover, focusing solely on the Fox River results in a failure to appreciate the wide range of site-specific precedents in development of RAOs, remedial action levels, and surface-weighted average concentration targets from other sediment sites for which USEPA has developed clean up plans. These precedents could be selectively drawn upon to support a wide range of clean up decisions for the Kalamazoo River and continue planning the Site-specific approach we have been developing in collaboration with USEPA and MDEQ.

The remaining MDEQ comments not included in the attached preliminary responses will require further discussion, and in some cases we believe the issues raised have already been resolved or addressed. As mentioned on August 29, 2012, we will arrange a teleconference with MDEQ to discuss the attached responses and other comments that we are working to address, but a detailed response may not be developed until after submission of the draft Area 1 FS Report due to the limited time available to complete the report.

Sincerely,

ARCADIS



Michael J. Erickson, P.E.  
Vice President

Enclosure:

Preliminary Responses to Select Comments Provided By Michigan Department of  
Environmental Quality – August 10, 2012

Copies:

Jim Saric, USEPA  
Garry Griffith, Georgia-Pacific LLC  
Mark Brown, Waterviews LLC  
Heather VanDewalker, ARCADIS  
Sarah Hill, ARCADIS  
Danielle Amber, ARCADIS

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**AREA 1 ALTERNATIVES SCREENING TECHNICAL MEMORANDUM**  
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**OF ENVIRONMENTAL QUALITY – AUGUST 10, 2012**

Preliminary responses to select comments provided by the Michigan Department of Environmental Quality (MDEQ) on the Area 1 Alternatives Screening Technical Memorandum (Area 1 ASTM) on August 10, 2012 are provided below. These responses are focused on the changes that will be incorporated into the revised Area 1 ASTM to address MDEQ's comments.

Due to schedule limitations associated with timing of MDEQ's comments, a more detailed response to comments may be developed at a later date. For reference purposes, ARCADIS has assigned numbers to MDEQ's comments in preparing these summary responses. ARCADIS has requested in the past that MDEQ number its comments as a courtesy to USEPA and Georgia-Pacific to facilitate discussion of particular comments.

- Responses referring to selection of preliminary remedial goals (PRGs) and remedial action levels (RALs)
  - The graphs presented at the July 23, 2012 Area 1 Planning meeting will be appended to the revised Area 1 ASTM to indicate how 1 milligrams per kilogram (mg/kg) and 50 mg/kg compare with other potential RALs, and to explain the rationale for selection of these RALs (MDEQ Key General Comment 2).
  - A comparison between the polychlorinated biphenyl (PCB) mass of the whole reach and the mass inventory of just the hotspots will be added to Section 5 of the revised Area 1 ASTM to support the basis for targeting only the hotspots. Additionally, the reduction in the Area 1 sediment surface-weighted average concentration (SWAC) associated with hotspot remediation will be added to Table 5-1 of the Area 1 ASTM (MDEQ Specific Comments 24 and 26).
  - Additional assumptions and details specific to the unidentified hot spots (including volume, PCB mass, and SWAC) will be included in the Area 1 Feasibility Study Report (Area 1 FS Report) (MDEQ Specific Comment 30).
  - A figure relevant to floodplain soil PRGs that compares the RALs and the array of relevant risk based concentrations (RBCs) and other applicable values will be prepared and added to the revised Area 1 ASTM (MDEQ Specific Comment 31). The various RBC values will be discussed in the Area 1 ASTM.
  - The selection of the sediment PCB SWAC PRG of 0.33 mg/kg will be clarified to explain how the 0.33 mg/kg value itself is not a specific risk-based value. This discussion will explain how 0.33 compares to the array of RBCs and explain its selection based on how it fits within that array. The definition of RBC, PRG, and RAL will be included in this discussion for clarity.

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- Responses referring to remedial action objectives (RAOs)
  - FS evaluations will include consideration of how a remedial alternative impacts potential changes in fish PCB concentrations over time (MDEQ Key General Comment 1). The means by which we will conduct this evaluation will be consistent with that explained at our meeting on July 23<sup>rd</sup>. However, time to achieve protectiveness will not be included in the RAOs, rather this performance metric will be considered along with the others in the evaluation of the alternatives.
  - The ability of each sediment alternative to achieve water quality standards will be explicitly addressed as part of the evaluation of compliance with applicable or relevant and appropriate requirements (ARARs); a separate RAO of achieving water quality standards is unnecessary.
- Responses referring to ARARs
  - A paragraph describing the chemical-specific ARARs and TBCs related to fish will be included in Section 4 of the Area 1 ASTM (MDEQ Specific Comment 21).
  - Applicable water quality standards can be added to Table 4-1 as requested. (MDEQ Specific Comment 46).
  - Section 401 of the Clean Water Act will be added as an ARAR (MDEQ Specific Comment 48).
- Responses referring to potential remedial technologies
  - The text in Section 6 of the Area 1 ASTM will be revised (consistent with Table 6-1) to clarify the identification of thin layer cover as the representative process option for enhanced MNR (MDEQ Specific Comment 33).
  - The Area 1 FS will reiterate that alternate technologies (e.g., those not selected as representative process options) are not intended to be excluded and may be considered during the Remedial Design once the remedy has been selected (MDEQ Specific Comment 36).
  - The revised Area 1 ASTM will incorporate additional site-specific information (when available) in Table 6-2 (e.g., monitored natural recovery [MNR]) and the Area 1 FS Report will continue to consider applicable site-specific information within the alternatives evaluation (MDEQ Specific Comment 50).
  - It is agreed that rechannelization will not be considered further in the Area 1 FS (MDEQ Specific Comment 51).

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- Text will be added to Table 6-3 to indicate that vegetative erosion control could be designed to incorporate habitat improvements (MDEQ Specific Comment 52).
- Responses referring to historical data or other references
  - References to the floodplain soil data sets considered during the evaluation of floodplain soil conditions will be added to the revised Area 1 ASTM (MDEQ Specific Comment 1).
  - Calculations for the Flow-Stratified Estimates of Annual PCB Loads in the Kalamazoo River and in Portage Creek, presented as part of the Area 1 Supplemental Remedial Investigation Report, will be appended to the revised Area 1 ASTM (MDEQ Specific Comments 2 and 3).
  - Summaries for both the Allied Paper Landfill remediation activities and the former Bryant Mill Pond Time-Critical Removal Action (TCRA) will be included in Section 2 of the revised Area 1 ASTM (MDEQ Specific Comment 11).
- Responses referring to calculations presented in the Area 1 ASTM
  - The Area 1 ASTM and Area 1 FS will continue to evaluate the Area 1-wide SWAC as previously, but will identify post-remedy SWACs associated with river sections identified in Table 3-1 of the Area 1 ASTM (MDEQ Key General Comments 2 and Specific Comment 6).
  - Tables ES-2 and 5-10 in the Area 1 ASTM will be corrected to identify the areal extent of excavation of 3.5 acres for sediments and 0.26 acres for soils (MDEQ Specific Comment 9).
  - Crown Vantage will be identified in a separate line item within Table 3-1 (MDEQ Specific Comment 13).
  - A full set of calculations will be included in the Area 1 ASTM for the estimate of the PCB inventory in floodplain soils within 10 feet of the banks (MDEQ Specific Comment 20).
- Responses referring to Area 1 ASTM or Area 1 FS textual edits
  - The Area 1 ASTM text will be revised to specify that the sediment survey and associated results performed after completion of the former Plainwell Impoundment TCRA correspond to areas downstream of US-131 (MDEQ Specific Comment 16).

The Area 1 ASTM and Area 1 FS will acknowledge that unremediated areas of Area 1 including in-stream, bank, and floodplains are likely ongoing low level sources of PCBs to the river (MDEQ Specific Comments 18 and 19).

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Concerning MDEQ Comments Citing the Fox River:

The belief that the Area 1 Feasibility Study Report (Area 1 FS Report) should be closely modeled after the FS for the Lower Fox River in Wisconsin is not in keeping with the National Contingency Plan (NCP) or Comprehensive Environmental Response, Compensation, and Liability Act guidance. The RI/FS process is fundamentally site-specific and there are significant differences between the Fox River and the Kalamazoo River. Moreover, based upon subsequent findings regarding dredging and PCB distributions during implementation of the Fox River remedy, it is doubtful the Lower Fox River FS, if written today, would take the same approach to cleanup level evaluation that MDEQ's letter is recommending. A review of the comments offers a single justification for using the Fox River FS as a model: *"to make the ASTM and FS a useful document for risk-management decision making"*. We disagree.

The RI/FS process described in the NCP and USEPA guidance is fundamentally a site-specific process and there are significant differences between the Fox River in Wisconsin and the Kalamazoo River in Michigan. Although practitioners bring experiences from other sites to the development of an RI/FS, there is nothing in guidance or the NCP indicating that RAOs and cleanup levels, which are fundamentally site-specific, should be copied from one site to the next or made generic. Fundamental to the RI/FS process is the development of site-specific conceptual models including assessments of ecological risks and human health risks. Although there are similarities in the conceptual models of the Fox River and Kalamazoo River PCB issues, there are notable differences related to PCB sources, physical conditions, demographics and use:

- Prominent in the conceptual model for the Kalamazoo River but absent from that of the Fox River is the ongoing loading of PCB from the unremediated river banks within the former impoundments.
- The Fox River, with its system of locks and maintained channel, was developed for navigation and is navigable by large vessels over much of its length; the Kalamazoo River in the area which is the focus of the RI/FS has not been developed for navigation, it is shallow and supports kayaks, canoes, and only very shallow-draft motorized vessels.
- The Fox River has roughly three times the population in small towns and cities along its affected length as does the Kalamazoo River. For the Fox River, this includes more than 6,000 Hmong in Green Bay and Appleton - a group with no established presence along the Kalamazoo River.
- The Fox River has more intensive development along its shoreline and is more intensively used for recreation than the Kalamazoo River.

The specific request to use the same array of sediment RALs as used in the Fox River FS to develop alternatives for the Kalamazoo River fails to appreciate how the Fox River FS analysis turned out with

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respect to relationships among dredge volumes, RALs, and SWACs. Dredge volume estimates necessary to achieve SWAC objectives turned out to be substantially underestimated even at the 1 ppm level. This led to amendments to the Fox River Records of Decision, which reduced the amount of dredging required. The choice to use such a closely-spaced array of RALs in the Fox River FS, which was written over a decade ago, might be excused based on understandings held then; however, because of the experience on the Fox River, it is not necessary to make the same mistakes in the Kalamazoo River FS.

Moreover, MDEQ's singular focus on the Fox River does not take into account the wide range of site-specific precedents in development of RAOs, RALs, and SWAC targets from other sediment sites that EPA has developed over the years. These precedents could be selectively drawn from to support a wide range of clean up decisions for the Kalamazoo River – thus necessitating a site-specific approach, which we have been developing in collaboration with USEPA and MDEQ.